Any reader with specific interest in any of these particular topics will, no doubt, be fully aware of the information that is presented in the book's chapters, but any reader wishing to consider the wider context in relation to the current thinking on a central issue in biology will find much of interest here.

Like many research monographs, and this one is part of a series on Cell Biology, the cost, particularly since it is costed in US dollars, means that most readers will be consulting a library copy. For any library aspiring to a useful collection of books on molecular cell biology this is an essential purchase.

A. Cryer

Electrogenic Ion Pumps; by P. Läuger, Sinauer Assoc.; Sunderland, MA; 1991; (Distributed by W.H. Freeman & Co.) xii + 313 pages; £34.95. ISBN 0-87893-451-0.

This monograph provides a succinct, precise and up- to-date review of our current understanding of ion pumps. Clear text, informative subheadings and well- designed figures are supported by a good reference list, reflecting the author's experience as a teacher. As a timely synthesis of the emerging principles of ion pumping the book has much to offer workers in, or entering, the field as well as to postgraduate and perhaps advanced undergraduate students.

The first five chapters cover general principles of ion pumping. Definitions of primary and secondary active transport across membranes lead to a classification of ion pumps according to their energy source, and a summary of their evolution and biological significance. Then comes a lucid treatment of energetic, mechanistic and electrical aspects of pumping, followed by a description of the biophysical approaches used to study pumps experimentally. General principles are illustrated with examples and key topics are summarized. The remaining six chapters of the book are devoted to a series of better-characterized ion pumps, chosen to represent the main categories. Four proton pumps (bacteriorhodopsin, cytochrome oxidase, F_0F_1- ATPases, *Neurospora* proton pump) and two others (Na,K-ATPase; sarcoplasmic reticulum Ca pump) are discussed in terms of their structure, function, energetics and electrogenic behaviour, then compared to other related pumps. These comparisons provide a useful insight into general strategies for ion pumping.

Biophysical aspects of the subject are covered well; occasionally biochemists might have enjoyed more about structure–function relationships. However I find it difficult to fault this book seriously. It is a model of clarity and in my view achieves just what a good review should. The essential themes are identified; comparisons and contrasts between examples are drawn in an exciting, thought-provoking way. I would recommend it to anyone interested in this key area of modern cell biology.

Ashley Allshire

Microcomputers in Biochemistry: a practical approach; edited by C.F.A. Bryce, IRL Press at Oxford University Press; Oxford, 1992; xx + 307 pages. £19.50.

Any single book that aims to show the use of Computer Science in Biochemistry will inevitably disappoint some. This problem arises because both disciplines are expansive and provide fundamental tools to others. In a single volume there will always be areas that have not been covered and the enthusiast will pounce on their omission as evidence against the validity of the work. The best defence in these circumstances is to highlight the topics that have been covered and allow the reader to judge for him/herself.

The first chapter by R.J. Beynon and J.S. Easterby is on 'Productivity tools' (27 pp.). The central importance of data, rather than programs, is reiterated before consideration is given to spreadsheets, object-orientated programming environments, statistics programs and graphics. The chapter concludes with a short section on virus protection. This should have been a keynote chapter but fails. The coverage is wide but there is little in the way of substance. It is not clear why object-orientated programming is included in a chapter on Productivity tools, yet there is no mention of wordprocessors or Bibliographic database management packages. The last two are real tools to improve productivity!

The second chapter by Graham Parslow is on 'Programming languages' (34 pp.). This starts with a comparison of the major programming languages. The second half considers Authoring Languages, and is the most interesting part. The examples given clearly show the potential of these systems to prepare new teaching materials.

The third chapter on 'Enzyme reactions' (67 pp.) by M.J.C. Crabbe is the largest and in some ways the most ambitious of all. In this single chapter molecular modelling, data acquisition, buffer calculations and analysis of steady- state kinetic data are all covered. Protein modelling is illustrated by specific example using the author's own DTMM package. The section on steady-state kinetics concentrates on methods that are available and is both educational and informative. The author lists several packages that perform the operations described. He also provides several source code listings in BASIC.

The next two chapters, 'Nucleic acid and protein sequence management' (28 pp.) by T.C. Hodgman and 'Computer-assisted recombinant DNA design and analysis with MATILDA' (30 pp.) by B. Israelewitz and D. Shalloway, are concerned with the use of computers in sequence analysis. For many, it is this area which is synonymous with computers in Biochemistry and had to be